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ABSTRACT

The use of technology in teaching composition, which has increased in recent years, began with a few filmstrips on grammar. Then slide-tape presentations were used to stimulate writing, and overhead projectors helped in evaluating writing in class. Now, videocassettes are used to record commonly repeated minilectures and minilessons on spelling, punctuation, and other topics. Also, an electronic typewriter hooked up to a television screen is available for use in teaching spelling and to emphasize particular words in a sentence or particular parts of a word. An improvement on this would be to add color, keyed to specific parts of speech, so that the function of nouns, verbs, adjectives, and adverbs could be easily demonstrated. Computer assisted instruction is being used to analyze compositions in terms of spelling, punctuation, grammatical errors, and other mechanical aspects of writing. Also, a computer can count the frequency of various types of clauses, phrases, verbs, and sentences so that writers can discover ways to increase the variety in their writing. Such mechanical analyses free the instructor to discuss such matters as selection of topic, narrowing to thesis, organization and development, and usage and style. (TJ)

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Technology in the Teaching of Composition

by

Paul L. Briand, Jr.

Ten years ago, the State University of New York gave me a grant and three-quarters released time to look into the use of technology in the teaching of English composition. At that time, and even to a certain extent today, such concerns came under the odious heading of audio-visual, and, like anything else that stinks, to be avoided. My research had not proceeded for half a semester, when I discovered I was all alone: I was not conducting research--that means searching again; no, I was conducting search. What I had found was a few film strips on old-style grammar, but little else. In short order, I was a pioneer.

My work that year resulted in a program called Turned-On: English Composition via Multimedia, turned on not because it was high on grass, but because it was plugged in to electrical outlets. (Notice the new term multimedia substituting for audio-visual.) What I came up with was a dual approach: stimulus-response, on the one hand; and on the other hand, diagnosis-therapy. What a latter-day John Milton could call a two-handed engine. Stimulus was a series of Idea-Saturation Programs, slide-tape presentations on such topics of the day as love, war and peace, the ghetto, the family of man, which I would have my students view in class: first, very fast to get an over-view of the subject; then, more slowly, to select particular scenes to go with the over-view; and, finally, very slowly, to note the specifics of who?, what?, where?, when?, how?, even why? Unbekownst to them, the students had been led from

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hypothesis, to testing that hypothesis by observable data, to the selection of a thesis, which of course now became the thesis for a 500-word composition, to be written in class--on yellow, lined paper, with number-two pencil, because, later, the papers were picked up, a random selection made into transparencies to be discussed on the overhead projector. The class had become a writing workshop. So much for stimulus-response.

What about diagnosis-therapy? In addition to the weekly in-class compositions, the students were asked to write and rewrite a 500-word composition on a subject of their own choosing. These they narrated on to a cassette tape. (The shock of hearing what their writing sounds like often caused much rewriting.) The paper and tape were turned in. The instructor listened to the student narration as he read the paper; this forced him to stay awake. On the tape the instructor commented on the effectiveness of the paper--the introduction of subject and the establishment of thesis, organization and development, usage, and style; he also recommended certain therapy based on his diagnosis of the student's writing ills. This therapy is a collection of minilectures and minilessons on videocassettes, which the student must view on his own in the English Writing Clinic, before he rewrites his paper. To date, these videocassettes cover spelling, punctuation, and grammar, and certain rhetorical principles. (I discovered after twenty-five years of teaching composition that I was saying the same thing over and over again; so I put these things on videotape; now I don't have to sound like a recording of myself when I'm "on live" in the classroom.)

All that I have told you about is Stage One in my work in educational technology and the teaching of composition. (Note how our terminology has progressed from the odious audio-visual, to the acceptable multimedia, to the prestigious educational technology.) Stage Two occurred when I was introduced to the Electronic Character Generator. This machine is an electric typewriter hooked up to a television monitor; the words appear on the screen as you type

them, followed by a little square of light called a cursor, so you'll know where you are on the allotted number of spaces and lines. The machine also has a flasher so that certain letters or words can go on and off, for emphasis. For example, in my program called "Stop, Look, Listen, and Spell," the student watches and listens to the word, the problem, the solution with examples, in the one hundred most frequently misspelled words by college undergraduates. In the word belief, for instance, he notes the problem as ei or ie, is given the solution as the i before the e except after c, and sees the solution with examples to include the exceptions by the letters ie or ei flashing on and off. The student not only sees and hears, the message is tattoed on his skull.

I am ready for Stage Three. I want to have an interface with an Electronic Character Generator with color--not color for the sake of color, but color for sound pedagogical purposes. For example, I would like to redo my program on grammar called "The Way of Words," in which I show and tell about nouns and verbs and what goes with nouns and verbs, adjectives and adverbs. In my new scheme, I would assign a specific color to each, say green to nouns, red to verbs, yellow to adjectives, and blue to adverbs. In that way, it would not matter, say, if the adjective were a one-word adjective, or a phrase, or a clause, it would always be yellow, and the student would see that the adjective always has the same relationship to his green cousin, the noun; the same would go for the blue adverbs as they go with a red verb or a yellow adjective. This same technique could be used in the teaching of foreign languages, became the same syntactical relationships still exist.

I am also ready for Stage Four--Computer Assisted Instruction in the teaching of composition; but I am not as ready as I would like to be. When I heard that I was going to be on this panel, Technology and Composition: Computer-Assisted Instruction, I immediately ordered a computer search at our library. To my delight, the print-out measured several feet: the research on the subject

has been considerable, and it is enlightening. It is now possible, thanks to work done in California, Connecticut, Texas, Michigan, Illinois, and even Edinburgh, Scotland (to name a few), for a student to drop off his composition at the computer center, on his way home or to the dorm, come by on his way to class in the morning, and pick up a computer analysis of his composition which would out-do the average freshman English instructor or the harried graduate teaching assistant. As a matter of fact, such an analysis, far from dehumanizing the student, would personalize his writing problem and--most importantly--would free up his instructor and/or graduate assistant to do the things they do best: use their creative intelligences to discuss such vital matters as selection of subject and narrowing to thesis, organization and development, usage and style--the very things the computer cannot do. Evaluating student compositions now becoms a very creative and aesthetically-fulfilling experience for both the instructor and the student. The hateful drudgery of marginal chicken-scratchings (I mean that both ways) is now over. No more the hours of noting P for Punctuation, Sp for Spelling, Awk for Awkward, Ref for Reference, Agr for Agreement, ad infinitum ad nauseam.

Because of machine languages like Atlas Autocode, a bright child of the Algol family, APL, Basic, and others, it is possible to correct compositions for spelling, punctuation, and grammatical errors; further, it is possible to analyze papers for the syntactical qualities of coordination, subordination, and modification; indeed, it is possible to examine essays for the stylistic degrees of sophistication in opinionation, vagueness-specification distinctions, and verbal-clausal/phrasal-additive fluency. The possible Boolean expressions, "If, then; otherwise . . ." are theoretically endless.

"If," the programmer can direct the computer, "you come upon one of the following subordinating conjunctions (they are listed), then print out the words that follow it up until the next mark of punctuation; otherwise, go to the

next numbered sentence. (Later the print-out analysis will refer to sentences by number.) "If," the programmer continues, "you run across one of the following prepositions (they are listed), then print out the words that follow it up until the next mark of punctuation; otherwise, go to the next numbered sentence. "If you meet one of the following coordinating conjunctions (they are listed) or conjunctive adverbs (they are listed), then print out the words that follow them up until the next mark of punctuation; otherwise, go to the next numbered sentence.

Then the print-out analysis of the composition can tell the student things like this. Your essay has the following subordinate clauses (they are listed), this number of times per sentence, per paragraph, and per composition (the numbers are given in each instance); your writing, therefore, is heavily verbal, especially with the following subordinating conjunctions (they are listed). On your re-write, try for sentence variety with phrasal constructions as follows: infinitival, prepositional, participial, gerundial (examples are listed). The reverse can be done if the composition is heavily phrasal, showing the student how his writing can achieve clausal variety by providing examples of adverbial, adjectival, and nominal clauses.

The computer will be able to make certain subtle determinations about a student paper, about the conditional, the disjunctive, the concessive, as follows. Your essay has the following "if-then, because-therefore" constructions as follows (they are listed); your writing, therefore, is heavily conditional. In your re-write, try for other syntactical approaches; for example (they are listed). Your essay has the following "either'or, on the one hand-on the other hand, not this-but that" constructions as follows (the are listed); your writing, therefore, is heavily disjunctive. In your rewrite, try for other syntactical approaches; for example (they are listed). Your essay has the following "though-yet,

although-yet" constructions; your writing, therefore, is heavily concessive. In your rewrite, try for other syntactical approaches (they are listed). The computer would, of course, be programmed to count the number of times such constructions occur, and if they exceed a given number, only then would they be considered "heavy."

The print-out continues: Each of your sentences--stripped of and counted for subordinate clauses--now look like this (they are listed). Question: Are your main ideas in your main clauses (what is left)? In addition, the print-out will tabulate and housekeep, because of the program, for individual essay, for all essays per individual, for all essays per section, for all sections per semester, and per semester for each instructor of composition, somewhat as follows:

Verbs of being 33.3%
Passive verbs 40.0%
Descriptive adverbs 1.7%
Wordy sentences 38.5%
Sentence Similarity Measure 13.3%
Average sentence length. 23.4%

The print-out could also say:

1. You use too many "to be" verb forms. Replace with strong active verbs. Check sentences 1, 4, 9, 12.

2. You use too many passive voices. Replace with active voice. See Sentences 3, 6, 10, 13.

3. You use too many adjectives and/or adverbs. Replace with strong nouns and strong active verbs. Check sentences 3, 7, 11, 15.

4. Vary the length and type of your sentences. See sentences 4, and especially 11 and 13.

Now for specific people at specific places. Anna Marie Thames, at Golden West College College, Huntington Beach, California, has 12 to 15 programs in APL for use in the IBM 360-50 with three remote terminals. To quote Peter T. Zoller, "They are fun yet an educationally sound way through grammar, syntax, and punctuation." Robert Bishop at the University

of Michigan, has adapted Computer Assisted Instruction (CAI) to the non-programmer, so that it scans patterns and makes comments on accuracy, style, redundancy, incomplete or incorrect source identification, omission of important details, grouping of like matter, spelling errors, and use of quotations. John Riskin, at the Computer-Based Education Research Laboratory University of Illinois, Urbana, has a Spelling Judger, written in Tutor IV, the authoring language of PLATO IV, which recognizes as misspellings over 60% of all actual misspellings and rejects as not the same 85% of non-synonymous contiguous word pairs in a standard dictionary; and (Riskin has) a Semantic Parser for synonym, higher level of abstraction, or lower level of abstraction: a Conceptual Comparator. Jack Hilier, formerly at Connecticut with Ellis Page, has suggested that a multiple correlation coefficient might be raised by the addition of three new proxes to Page's thirty. For Hilier, they are three characteristics that simple words or discrete phrases might cue to quality: Opinionation, 130 items like I feel, I think, in my opinion; Vagueness, 60 items like very, rather, little, probably; and Specificity (the antithesis of vagueness), 90 items like analyze, ambiguous, but here, exception. Paul Hanna, at Stanford University, has developed a spelling dictionary with over 17,000 words, and it's growing; programmed into the computer, it begins by stripping prefixes and suffixes before finding the root word. To that word list a special word list could be added to accommodate to a special discipline.

And so it goes. In my search and in my research, I have literally barely touched the surface. From audio-visual, to multimedia, to educational technology like CAI and CMI, the machine has come a long way indeed. All, you will note, involve the senses--sight, sound, touch. It does indeed make sense to make sense by using the senses--as many as possible--in the teaching-learning matrix, or should I say bit--thousands of bits with 48-bit, word-core storage.

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